REMARKS

In the non-final Office Action dated August 17, 2009, the Examiner rejected claims 1-7 and 9-15. Claims 1-23 are pending. Claims 8 and 15-23 are withdrawn. By this amendment, claim 1 has been amended. Accordingly, clams 1-7 and 9-15 are pending and in active prosecution.

Claim 1 has been amended to further clarify the invention. Support for the amendment may be found in Examples 1 and 2. In Examples 1 and 2, the crude bacterial preparations containing OMVs as well as other materials such as DNA were either subject to ultracentrifugation (the old method) or to ultrafiltration (the new claimed method) after which the bacterial DNA was negligible.

I. Claim Rejections – 35 U.S.C. § 102

Claims 1-7, 9-12, 14 and 15 have been rejected under 35 U.S.C. § 102(e) as allegedly being anticipated by Zolinger *et al.* (U.S. Patent 6,558,677).

Applicants respectfully traverse the rejection and its supporting remarks. In order to anticipate a claimed invention, the cited art must teach all of the elements as claimed. Zolinger *et al.* appears to be solving the same problem that the inventors of the presently claimed invention have solved, i.e., removal of soluble contaminants such as nucleic acids, proteins, and capsular polysaccharides without use of an ultracentrifuge step. Zolinger *et al.* solves this problem by a different route. Zolinger *et al.* teach use of a DEAE ion exchange matrix to remove these contaminants (such as bacterial DNA). See, e.g., Col. 8, lines 43-51 as cited by the Examiner. Thus, while Zolinger *et al.* may disclose use of an ultrafiltration step, such ultrafiltration steps only occur after Zolinger's use of the DEAE ion exchange column. Thus, Zolinger *et al.* does not teach "a step of ultrafiltration of a crude OMV preparation containing bacterial DNA prior to any ultracentrifugation or sterilisation steps."

Applicants therefore respectfully request that the Examiner withdraw the rejection of claims 1-7, 9-12, 14 and 15.

Claims 1-7 and 9-13 have been rejected under 35 U.S.C. § 102(e) as allegedly being anticipated by Granoff *et al.* (U.S. 2006/0029621).

Applicants respectfully traverse the rejection and its supporting remarks. In order to anticipate a claimed invention, the cited art must teach all of the elements as claimed. The Examiner has cited to paragraph 0085, but this paragraph provides too little detail to determine what the order of purification steps would actually be performed to purify OMVs. In contrast, paragraph 0185 of Granoff *et al.* does go into enough detail as to how OMVs were prepared to determine unequivocally that Granoff *et al.* does not anticipated the claimed invention. Both procedures utilized centrifugation followed immediately by ultracentrifugation. Thus, Granoff *et al.* does not teach the claimed invention as the methods used by Granoff *et al.* included ultracentrifugation.

Applicants therefore respectfully request that the Examiner withdraw the rejection of claims 1-7 and 9-13.

Claims 1-7 and 9-15 have been rejected under 35 U.S.C. § 102(e) as allegedly being anticipated by Berthet *et al.* (U.S. 2006/0204520).

Applicants respectfully traverse the rejection and its supporting remarks. In order to anticipate a claimed invention, the cited art must teach all of the elements as claimed. The Examiner has cited to paragraph 0036-37 as support for purification without ultracentrifugation. However, this section ignores the fact that soluble nucleic acids, proteins and capsular polysaccharides would also need to be removed. Thus, either one of skill in the art would perform ultracentrifugation or DEAE chromatography to remove such contaminants. Alternatively, if the OMVs disclosed by Berthet *et al.* does not have soluble nucleic acids, proteins and capsular polysaccharides, then one of skill in the art would not perform the ultrafiltration step. Further, the claims recite "prior to any ultracentrifugation or sterilisation steps," so the examiner's citation to sterile filtration in Berthet *et al.* is not relevant to the ultrafiltration as claimed.

Applicants therefore respectfully request that the Examiner withdraw the rejection of claims 1-7 and 9-15.

Claims 1-4, 6 and 9-12 have been rejected under 35 U.S.C. § 102(e) as allegedly being anticipated by Lowell *et al.* (U.S. 6,476,201).

Applicants respectfully traverse the rejection and its supporting remarks. In order to anticipate a claimed invention, the cited art must teach all of the elements as claimed. Lowell *et al.* do not teach a method for purification of OMVs as presently claimed. First, Lowell *et al.* is teaching use of outer membrane protein complexes referred to as "proteosomes", which are not even clearly OMVs. Second, Lowell *et al.* is teaching a method for allowing vaccine components to complex with one another. Lowell *et al.* teaches performing this mixing and complexing using hollow filter diafiltration technology rather than dialysis tubing as had been used in the prior art. This is clearly disclosed in Example 2 which discloses the generation of the *Neisseria meningitidis* vaccine. Col. 7, lines 32-45, clearly indicate that the methods start with "***purified*** outer membrane protein (proteosomes)." Thus, Lowell *et al.* does not teach the presently claimed method.

Applicants therefore respectfully request that the Examiner withdraw the rejection of claims 1-4, 6 and 9-12.

CONCLUSION

In the event the U.S. Patent and Trademark office determines that an extension and/or other relief is required, applicants petition for any required relief including extensions of time and authorizes the Commissioner to charge the cost of such petitions and/or other fees due in connection with the filing of this document to **Deposit Account No. 03-1952** referencing **Docket No. 223002110300**. However, the Commissioner is not authorized to charge the cost of the issue fee to the Deposit Account.

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